LUNG CANCER AND EXPOSURE TO MINERAL WOOLS: THE ICARE STUDY

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Background and aims: In France, between 13 and 29% of lung cancers in men are estimated to be attributable to occupational factors. The aim of this work is to assess the risk of lung cancer associated with mineral wools (MW) currently used as a substitute for asbestos. They are suspected of increasing the risk of lung cancer because of their structure close to asbestos. Exposure to MW concerned around 15% of men in France.

Methods: ICARE is a large multicentre population-based case-control study conducted between 2001 and 2006 in 10 French *départements* with a general cancer registry. ICARE includes 2926 incident lung cancer cases and 3555 controls with 78% of men. A detailed description of lifetime occupational history was collected. The subjects' exposure to MW was first determined using a Job-Exposure Matrix (JEM) specific for MW. Then, individual exposure was assessed with an algorithm using specific questions on exposing tasks. We estimated odds ratios and 95% confidence intervals with unconditional logistic regression adjusted for age, department, number of job periods, lifelong cigarette smoking and exposure to asbestos (also assessed by a JEM and an algorithm).

Results: Analyses were conducted among men (2301 cases, 2780 controls) and concerned 27191 jobs. In the first analyses, we find significant associations between the risk of lung cancer and exposure to MW assessed with the JEM. They became nonsignificant and close to 1 when adjusting for exposure to asbestos. In contrast, a significant dose-response relation was found between exposure to asbestos and the risk of lung cancer, even when adjusted for exposure to MW.

Conclusions: These results need to be completed with the exposure assessment from the algorithm. This algorithm would help us disentangle individual levels of MW and asbestos exposure, which are closely related because of similar exposing jobs. Both results will be presented.